

Welding Technician, Entry Level

Levels: Grades 10-12
Units of Credit: 1 Year (1.0)
CIP Code: 480508
Prerequisite: None

COURSE DESCRIPTION

Students will learn basic skills that will prepare them to apply technical knowledge and skill to current welding processes. These courses are based on the American Welding Society (AWS) task list.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD

480508-01 Student will understand welding orientation.

OBJECTIVES

- 480508-0101 Student will identify welding processes.
- 480508-0102 Student will prepare time or job cards, reports, or records.
- 480508-0103 Student will follow verbal instructions to complete work assignments.
- 480508-0104 Student will follow written details to complete work assignments.

STANDARD

480508-02 Student will understand and use welding safety and first aid.

OBJECTIVES

- 480508-0201 Student will complete a student safety pledge (Disclosure Statement).
- 480508-0202 Student will respond to first aid requirements.
- 480508-0203 Student will follow safe practices.
- 480508-0204 Student will perform housekeeping duties.
- 480508-0205 Student will successfully complete Safety Tests on equipment use.

STANDARD

480508-03 Student will identify welding tools and equipment.

OBJECTIVES

- 480508-0301 Student will identify basic hand tools.
- 480508-0302 Student will identify basic power tools and equipment.

STANDARD**480508-04 Student will use basic math and measuring skills.****OBJECTIVES**

- 480508-0401 Student will be able to perform basic math conversions.
- 480508-0402 Student will read and correctly use a tape measure, rule, and square.
- 480508-0403 Student will be able to perform basic layout techniques.

STANDARD**480508-05 Student will read welding prints.****OBJECTIVES**

- 480508-0501 Student will be able to identify and apply the five “alphabet” lines in print reading.
- Object Line
 - Hidden Line
 - Center Line
 - Phantom Line
 - Construction Line
- 480508-0502 Student will interpret tolerance dimensions in decimal, fractions, and degrees.

STANDARD**480508-06 Student will identify and apply basic welding symbols.****OBJECTIVES**

- 480508-0601 Student will identify and interpret basic welding symbols.
- Fillet Weld
 - Groove Weld
- 480508-0602 Student will draw welding symbols for given specifications.
- 480508-0603 Student will interpret a welding print and welding procedure specifications.

STANDARD**480508-07 Student will use shielded metal arc welding processes.****OBJECTIVES**

- 480508-0701 Student will perform safety inspections of equipment and accessories.
- 480508-0702 Student will set up for shielded metal arc welding operations on plain carbon steel.
- 480508-0703 Student will start and restart an arc, crater, and backfill at the edge while running a bead on mild steel plate.
- 480508-0704 Student will build a pad on mild steel plate in the flat position on plain carbon steel.
- 480508-0705 Student will weld to specifications a fillet weld in the flat position on plain carbon steel.
- 480508-0706 Student will weld to specifications a multi-pass fillet weld in the flat position on plain carbon steel.

STANDARD**480508-08 Student will use manual oxyfuel gas cutting processes.**

- 480508-0801 Student will perform safety inspections of equipment and accessories.
- 480508-0802 Student will set up for manual oxyfuel gas cutting operations on plain carbon steel.
- 480508-0803 Student will operate manual oxyfuel gas cutting equipment.
- 480508-0804 Student will perform straight cutting operations on plain carbon steel.
- 480508-0805 Student will perform shape-cutting operations on plain carbon steel.
- 480508-0806 Student will perform bevel-cutting operations on plain carbon steel.

STANDARD**480508-09 Student will use gas metal arc welding processes.**

- 480508-0901 Student will perform safety inspections of equipment and accessories.
- 480508-0902 Student will set up for gas metal arc welding operations on plain carbon steel.
- 480508-0903 Student will operate gas metal arc welding equipment.
- 480508-0904 Student will use Short Circuit Transfer to make fillet welds in flat position on plain carbon steel.
- 480508-0905 Student will use Short Circuit Transfer to make grooves welds, flat position, on plain carbon steel.
- 480508-0906 Student will use Spray Transfer to make fillet welds, flat position, on plain carbon steel.
- 480508-0907 Student will use Spray Transfer to make groove welds, flat position, on plain carbon steel